

## Description

# EASILY ERECTABLE DORMER FOR A ROOF STRUCTURE

### CROSS REFERENCE TO RELATED APPLICATIONS

[0001] This application claims the benefit of U.S. Provisional Application Serial No. 60/319,420, filed on July 23, 2002.

### BACKGROUND OF INVENTION

### FIELD OF THE INVENTION

[0002] In one of its aspects, the invention relates to a dormer assembly for a roof structure of a dwelling. More particularly, the invention relates to a dormer assembly that is easily erectable by having a structure that is collapsible for transportation to an installation site and erectable into a dormer assembly for installation onto a roof structure of a dwelling. The invention also relates to a method for building a roof structure having a dormer therein.

### DESCRIPTION OF THE RELATED ART

[0003] A "dormer" is a window set vertically into a small gable

projecting from a sloping roof. Dormers have long been used in both residential and commercial dwellings to provide an aesthetically-pleasing appearance to a window set into the roof of the dwelling. A typical dwelling 10 is shown in Figure 1 and includes a roof 12 into which several dormers 14 have been constructed.

[0004] While popular, typically in residential dwellings, dormers (such as those shown by reference numeral 14 in Figure 1) are typically built from scratch from raw lumber at an installation site which can require substantial construction cost and installation time. While it is conceivable to pre-construct a dormer structure at a factory, a pre-constructed dormer would require an unwieldy volume during transportation, and result in an undesirable increase in transportation cost and logistics in assembly.

## **SUMMARY OF INVENTION**

[0005] In its aspects, the invention relates to a dormer assembly for a roof structure of a dwelling. More particularly, the invention relates to a dormer assembly that is easily erectable by having a structure that is collapsible for transportation to an installation site and erectable into a dormer assembly along with the roof. The invention also relates to a method for building a roof structure having a

dormer therein.

[0006] In one aspect, the invention relates to a dormer for attachment to a roof portion of a structure comprising: a girder frame having a pair of elongated rails, wherein the girder frame is configured to be in register with an opening in an angled roof portion of the structure when the girder frame is mounted to the roof portion of a structure; a front frame mounted to the girder frame, wherein the front frame is configured to be positioned in a generally vertical orientation when the girder frame is mounted to the roof portion; and a top frame mounted to the front frame, wherein the top wall is configured to form a roof for the dormer; wherein at least two of the girder frame, the front frame, and the top frame are pivotally mounted to one another between a first, lowered position and a second, finished position.

[0007] The front frame can be pivotally mounted to the girder frame between a first, lowered position and a second, finished position. The top frame can be pivotally mounted to the girder frame between a first, lowered position and a second, finished position. The top frame can be pivotally mounted to the front frame between a first, lowered position and a second, finished position.

[0008] The top frame can comprise a plurality of first truss members and a plurality of second truss members each pivotally mounted to the top frame. The first and second truss members can be pivotally moveable relative to the top frame between a first, lowered position and a second raised position, wherein the top frame can be easily transported in a low volume when the first and second truss members are positioned in the first, lowered position. A top frame ridge board can be provided, wherein the first and second truss members can be fixedly mounted to the top frame ridge board when the first and second truss members are moved to the second, raised position.

[0009] A finishing frame can be provided that is adapted to be mounted between the top frame in the second, finished position and the roof portion of the structure to form a transition between the top frame and the roof portion of the structure. At least one side frame can be provided that is adapted to be mounted between an upper surface of the girder frame and a lower portion of at least one of the front frame and the top frame, wherein the at least one side frame forms a vertical side wall of the dormer. The at least one side frame can be mounted to the dormer after all components have been raised to the second, finished

position.

[0010] At least one knee wall chord can be provided for holding the dormer assembly in the second, finished position. The knee wall chord can be pivotally mounted to the girder frame at a central area thereof. The knee wall chord can be pivotally mounted to the girder frame between the mountings of the top frame and the front frame.

[0011] In another aspect, the invention relates to a dormer assembly for attachment to a roof portion of a structure comprising: a dormer; and a hinge attached to the dormer adapted to pivotally mount the dormer to the roof portion of a structure between a collapsed position and a finished, erected position.

[0012] The dormer can comprise a girder frame adapted to be interconnected with the hinge and to be located in register with an opening in the roof portion of the structure. The dormer can comprise a front frame adapted to be positioned in a generally vertical orientation when the girder frame is positioned in the finished, erected position.

[0013] The dormer can comprise a top frame adapted to form a roof portion of the dormer assembly when the girder frame is positioned in the finished, erected position. The front frame can be pivotally mounted to the girder frame

between a first, lowered position and a second, finished position. The top frame can be pivotally mounted to the girder frame between a first, lowered position and a second, finished position. The top frame can be pivotally mounted to the front frame between a first, lowered position and a second, finished position. The top frame can comprise a plurality of first truss members and a plurality of second truss members each pivotally mounted to the top frame. The first and second truss members can be pivotally moveable relative to the top frame between a first, lowered position and a second raised position, wherein the top frame can be easily transported in a low volume when the first and second truss members are positioned in the first, lowered position.

[0014] A top frame ridge board can be provided, wherein the first and second truss members are fixedly mounted to the top frame ridge board when the first and second truss members are moved to the second, raised position. A finishing frame can be provided that is adapted to be mounted between the top frame in the second, finished position and the roof portion of the structure to form a transition between the top frame and the roof portion of the structure. At least one side frame can be provided that is adapted to

be mounted between an upper surface of the girder frame and a lower portion of at least one of the front frame and the top frame, wherein the at least one side frame forms a vertical side wall of the dormer assembly. The at least one side frame can be mounted to the dormer assembly after all components have been raised to the second, finished position.

[0015] At least one knee wall chord can be provided for holding the dormer assembly in the second, finished position. The knee wall chord can be pivotally mounted to the girder frame at a central area thereof. The knee wall chord can be pivotally mounted to the girder frame between the mountings of the top frame and the front frame.

[0016] In yet another aspect, the invention relates to a method of mounting a dormer to a roof structure comprising the step of: providing a dormer with a hinge thereon, the hinge being adapted to be mounted to a roof portion of a structure; whereby the dormer is thereby adapted to be pivotally mounted to the roof portion of the structure.

[0017] The method can further comprise the step of mounting the hinge on the dormer to the roof structure. The method can further comprise the step of pivoting the dormer from a first, lowered position to a second, finished

position about the hinge. The method can further comprise the step of fixedly mounting the dormer to the roof portion in the second, finished position. The method can further comprise the step of providing the dormer with a girder frame adapted to be interconnected with the hinge and to be located in register with an opening in the roof portion of the structure. The method can further comprise the step of providing the dormer with a front frame adapted to be positioned in a generally vertical orientation when the girder frame is positioned in the finished, erected position.

[0018] The method can further comprise the step of providing the dormer with a top frame adapted to form a roof portion of the dormer assembly when the girder frame is positioned in the finished, erected position. The method can further comprise the step of pivotally mounting the front frame to the girder frame between a first, lowered position and a second, finished position. The method can further comprise the step of pivotally mounting the top frame to the girder frame between a first, lowered position and a second, finished position. The method can further comprise the step of pivotally mounting the top frame to the front frame between a first, lowered position



and a second, finished position. The method can further comprise the step of providing the top frame with a plurality of first truss members and a plurality of second truss members each pivotally mounted to the top frame.

[0019] The first and second truss members can be pivotally moveable relative to the top frame between a first, lowered position and a second raised position, wherein the top frame can be easily transported in a low volume when the first and second truss members are positioned in the first, lowered position. A top frame ridge board can be provided, and the method can further comprise the step of fixedly mounting the first and second truss members to the top frame ridge board when the first and second truss members are moved to the second, raised position.

[0020] The method can further comprise the step of providing a finishing frame adapted to be mounted between the top frame in the second, finished position and the roof portion of the structure to form a transition between the top frame and the roof portion of the structure. The method can further comprise the step of providing at least one side frame adapted to be mounted between an upper surface of the girder frame and a lower portion of at least one of the front frame and the top frame, wherein the at

least one side frame forms a vertical side wall of the dormer assembly. The method can further comprise the step of mounting the at least one side frame to the dormer assembly after all components have been raised to the second, finished position.

[0021] The method can further comprise the step of providing at least one knee wall chord for holding the method assembly in the second, finished position. The method can further comprise the step of pivotally mounting the knee wall chord to the girder frame at a central area thereof. The method can further comprise the step of pivotally mounting the knee wall chord to the girder frame between the mountings of the top frame and the front frame thereto.

[0022] In an additional aspect, the invention relates to an erectable dormer assembly for attachment to a roof portion of a structure comprising: a girder frame adapted to be interconnected to the roof portion of the structure; a front frame interconnected to the girder frame and adapted to form a visible vertical wall of the dormer assembly; and a top frame interconnected to the girder frame adapted to form a roof portion of the dormer assembly; wherein at least one of the front frame and the top frame are pivotally interconnected to the girder frame

between a first, lowered position and a second, finished position to assist in the easy transportation and erection of the dormer assembly.

[0023] A pair of side walls can be provided that are adapted to be interconnected to vertical sidewalls of the dormer. Both the front frame and the top frame can be pivotally mounted to the girder frame. The front frame can be pivotally mounted to a lower portion of the girder frame. The top frame can be pivotally mounted to an upper portion of the girder frame. A hinge portion can be mounted to a base portion of the girder frame and can be adapted to be mounted to the roof portion of the structure between a first, lowered position and a second, raised position. The roof portion can comprise a plurality of floor trusses.

[0024] At least one knee wall chord can be provided for holding the dormer assembly in the second, raised position. The knee wall chord can be pivotally mounted to the girder frame at a middle area thereof. The knee wall chord can be pivotally mounted to the girder frame between the mountings of the top frame and the front frame.

[0025] The top frame can comprise a plurality of first truss members and a plurality of second truss members each pivotally mounted to the top frame. The first and second

truss members can be pivotally moveable relative to the top frame between a first, lowered position and a second raised position, wherein the top frame can be easily transported in a low volume when the first and second truss members are positioned in the first, lowered position.

[0026] A top frame ridge board can be provided, wherein the first and second truss members are fixedly mounted to the top frame ridge board when the first and second truss members are moved to the second, raised position.

[0027] A finishing frame can be provided that is adapted to be mounted between the top frame in the second, finished position and the roof portion of the structure to form a transition between the top frame and the roof portion of the structure.

#### **BRIEF DESCRIPTION OF DRAWINGS**

[0028] Figure 1 is a perspective view of a typical dwelling having several dormers provided in a rooftop surface of the dwelling.

[0029] Figure 2 is an exploded, perspective view of a dormer assembly according to the invention which can be reduced into a collapsed state for transportation and is erectable into a dormer frame for installation onto a rooftop surface of a dwelling such as that shown in Figure 1.

- [0030] Figure 3 is a perspective view of the raised dormer assembly of Figure 2 in a completed state. The end structural effect is shown in Figure 1.
- [0031] Figure 4 is an enlarged, perspective view of the region marked IV in Figure 3.
- [0032] Figure 5 is a perspective view of a connector used in the dormer assembly of Figure 2 and shown in enlarged detail in Figure 4.
- [0033] Figure 5A is a perspective view of an alternative embodiment of the connector shown in Figure 5.
- [0034] Figure 5B is another perspective view of the alternative embodiment of Figure 5A.
- [0035] Figure 6 is an enlarged, perspective view in juxtaposed orientation to the enlarged, perspective view of Figure 4 of the region marked IV in Figure 3.
- [0036] Figure 7 is an enlarged, perspective view of the region marked VII in Figure 3.
- [0037] Figure 8 is an enlarged, perspective view of the region generally indicated as VIII in Figure 3.
- [0038] Figure 9 is a perspective view of the dormer assembly of Figures 2–3 shown in a collapsed state.
- [0039] Figure 10 is a perspective view of the dormer assembly of Figures 2–3 with the roof truss portion erected from the

collapsed state shown in Figure 9.

[0040] Figure 11 is a perspective view of the dormer assembly of Figures 2–3 with a front wall portion erected from the assembly state shown in Figure 10.

[0041] Figure 12 is a perspective view of the dormer assembly of Figures 2–3 with side frame portions added to the assembly state shown in Figure 11.

[0042] Figure 13 is a perspective view of the dormer assembly of Figures 2–3 with the dormer assembly pivoted upwardly to a final assembly position from the assembly state shown in Figure 12.

[0043] Figure 14 is a perspective view of the dormer assembly of Figures 2–3 with final frame portions added to the final assembly position shown in Figure 12.

#### **DETAILED DESCRIPTION**

[0044] Referring now to the drawings and to Figures 2–3 in particular, a dormer assembly 20 is shown comprising a girder rafter 22, a front wall portion 24, right-hand and left-handed sidewall portions 26 and 28, a floor truss portion 30, a roof truss portion 32 and a finishing framing portion 34. It is a feature of this invention that the dormer assembly 20 shown and described herein is capable of being constructed integral with the roof framing and re-

duced to a collapsed state for transportation to the final building site with the completed roof system. When the roof is raised during the final building setup, the folded dormer system is raised as part of the roof setup process. This eliminates the need to field frame a dormer system on the completed roof.

[0045] It will be understood that different physical characteristics of dormer assemblies can be selected by a dwelling architect, however, those different physical characteristics should not detract from the inventive characteristics of the collapsible and the erectable dormer assembly 20 shown and described herein. That is, dormer assemblies with different physical characteristics and appearances can be employed with the invention described herein without departing from the scope of the invention.

[0046] The particular structure of each of the components 22–34 of the example embodiment of the dormer assembly 20 shown herein will now be described. The structure and assembly of each of the components 22–34 into the example embodiment of the dormer assembly 20 is made with general reference to Figures 2–3 as well as with specific reference to Figures 4–8 for particular features of the components 22–34.

[0047] The girder rafter 22 comprises a rectangular frame 36 formed by a pair of generally parallel top chord 38 interconnected by a pair of crossmembers 40. An overhang portion 42 of each of the top chord 38 extends beyond a lower crossmember 40. A plurality of overhang rails 44 are interconnected in a generally angular configuration to the lower crossmember 40 which cooperate with the top chord 38 of the rectangular frame 36 to form an overhang or eaves portion of the dormer assembly 20 (of course, in cooperation with a rooftop surface of the dwelling such as that shown by reference number 10 in Figure 1).

[0048] Each of the overhang rails 44 comprises a connector rail 46, a connector block 48, and an overhang portion 50. The connector rail 46 is connected at one end to the lower crossmember 40 and at an opposite end to one end of the connector block 48 by a hinge plate 52, of a type that is conventionally known in the art. An opposite end of the connector block 48 is preferably fixedly connected to one end of the overhang portion 50 by a conventional fastener, such as a nail plate 54 of a type that is conventionally known in the art. An opposite end of the overhang portion 50 is preferably configured to extend in cantilever fashion as an overhang portion of the dwelling as will be



evident to one skilled in the art.

[0049] A pair of knee wall chords 56 are preferably connected at generally medial portions of each of the top chord 38. A proximal end of each of the knee wall chords 56 is pivotally mounted to the corresponding top chord 38 by a hinge plate 52. A distal end of each of the knee wall chords 56 is preferably provided with a laterally-extending foot 58 thereon.

[0050] The front wall portion 24 comprises a peripheral frame 60 having internal stud work 62 connected thereto preferably forming a window opening 64 (typically a roughed-out opening capable of receiving a conventional window assembly). The peripheral frame 60 includes a pair of vertical members 66 which form the outer lateral limits of the front wall portion 24. Preferably, the peripheral frame 60 corresponds generally in width to the width of the frame 36 of the girder rafter 22. A pair of rearwardly-extending connector rails 68 are mounted at one end to the peripheral frame 60 at an upper portion thereof.

[0051] Each of the right-hand and left-hand sidewall portions 26 and 28 comprises an inverted right-triangular frame 70 formed of a vertical member 72 interconnected at an upper end to a horizontal member 74 whereby the opposite

end of each of the vertical and horizontal members 72 and 74 is interconnected by opposite end of a hypotenuse member 76. The frame 70 can include internal stud work 78 to provide structural reinforcement to the frame 70.

[0052] The floor truss 30 comprises several joists 80 which generally comprise elongated members capable supporting the weight of the remaining components of the dormer assembly 20 during its mounting to the rooftop surface of a dwelling 10. In the example embodiment shown herein, each of the joists 80 comprises a structural joist member made up of several vertical braces 82 and internal stud work 84 interposed between upper and lower members 86 and 88, respectively, the joists 80 being commonly and commercially available in the field of endeavor of this invention. As can be seen in Figures 2–3, a pair of joists 80 are preferably abutted side by side at each lateral side of the dormer assembly 20 with single joists 80 provided at spaced intervals along the width thereof. It will be understood that the dormer 20 described herein can include the floor truss 30 as an optional component, or can be provided to be retrofitted to existing floor trusses/rafters 30 for assembly to a preexisting or remodeled workspace.

[0053] The roof truss 32 comprises several isosceles triangular

frames 90 preferably arranged at spaced regular intervals along the depth of the roof truss 32 and interconnected at an upper vertex thereof by a ridge board 92. Each of the isosceles triangular frames 90 comprises a base chord 94 provided with a connector block 96 on an upper surface adjacent each end thereof. An overhang portion 98 is provided in an angular configuration along an aligned outer lateral surface of each end of the base chord 94 and its associated connector blocks 96 and is fastened thereto by a nail plate 54. Each of the isosceles triangular frames 90 also includes a pair of roof frame chords 100, each of which has a lower end pivotally mounted to an upper end of the overhang portion 98 by a hinge plate 52 and an upper end adapted to be connected to the ridge board 92 when the roof truss 32 is erected into position on the dormer assembly 20.

[0054] The finishing frame portion 34 comprises a rectangular frame 102 having internal stud work 104 (as needed) and a pair of rearwardly-extending collar ties 106 which are adapted to be mounted at one end to an exterior surface of the top chord 38 of the girder rafter 22 adjacent an upper end thereof and at an opposite end to rooftop truss framing of the dwelling 10 during installation of the

dormer assembly 20. The function of the finishing frame portion 34 is to operate as a "filler" between an upper end of the girder rafter 22 of the dormer assembly 20 and a roof peak portion of the dwelling 10 so that the dormer assembly 20 can be interspersed between regularly-spaced roof joists of the dwelling 10 to allow for easy assembly of the dormer assembly 20 thereto.

[0055] Prior to describing the assembly and operation of the inventive dormer assembly 20 described herein, it is preferable to describe a connector bracket 110 which is shown in Figures 3-4 and in greater detail in Figure 5. The connector bracket 110 comprises a body 112 having an inverted U-shaped configuration defined by a pair of depending legs 114 and a bight portion 116 extending across upper edges of the depending legs 114.

[0056] The bight portion 116 preferably has a plurality of upwardly extending legs 118 extending in side-by-side configuration in a pair of generally parallel rows 120 and 122, wherein each row is preferably offset laterally from a longitudinal axis of the bight portion 116. In addition, each of the upwardly extending legs 118 is also preferably longitudinally out of phase with an upwardly extending leg 118 in juxtaposed relationship in the opposite row

120 and 122. In this manner, the upwardly extending legs 118 can be stamped from a common piece of material of the bight portion 116 (leaving an aperture 124 in the bight portion 116 after an appropriate stamping operation has been performed to form the upwardly extending legs 118). Each of the depending legs 114 and upper portion of the upwardly extending legs 118 can be provided with mounting apertures 126 for receiving a fastener therethrough when the connector bracket 110 is used to attach the floor joists 80 of the floor truss 30 to the connector blocks 48 of the girder rafter 22 as will be subsequently described.

[0057] Figures 5A and 5B show an alternative embodiment to the connector 110. In this alternative embodiment, a glued finger joint is shown comprising a series of aligned ribs 110a located on an underside of the connector block 48 which are fit into a series of aligned slots on the truss members 80. An appropriate adhesive can be applied to the joint to provide further reinforcement and securement to the finger joint as is optionally needed.

[0058] The assembly of the dormer assembly 20 can be generally described with respect to two phases. The first phase of assembly of the dormer assembly 20 is typically per-

formed at a mass-manufacturing facility to assemble the dormer assembly 20 from raw lumber into the dormer assembly 20 and the collapsed state shown in Figure 9. The second phase of assembly of the dormer assembly 20 is typically performed at an installation site for a dwelling 10 to assemble the dormer assembly from the collapsed state shown in Figure 9 through the various stages shown in Figures 10–13 to the finally erected stage of Figure 14.

[0059] The first phase of assembly of the dormer assembly 20 will now be described with respect to Figures 2–8. Initially, connector brackets 110 are mounted to one end of a plurality of joists 80 making up the floor truss 30 by placing a connector bracket 110 atop each joist 80 so that the floor truss top chord 86 of the joist 80 is received within the void created by the bight portion 116 and the depending legs 114 of the connector bracket 110. A more secure mounting can be had by passing conventional fasteners such as nails or screws through the mounting apertures 126 in each of the depending legs 114 and into the floor truss top chord 86 of the joist 80.

[0060] The underside of each of the connector blocks 48 on the overhang portion 42 of the girder rafter 22 is received between the rows 120 and 122 of each of the connector

brackets 110. Each of the connector blocks 48 can be securely fastened to the connector brackets 110 by passing suitable fasteners such as nails or screws through the mounting apertures 126 in each of the upwardly-extending legs 118 forming the rows 120 and 122. In this manner, the girder rafter 22 is thereby mounted to the floor truss 30. The overhang rail 50 of the overhang portion 42 preferably extends in an angularly and downwardly direction beyond the end of the joists 80 making up the floor truss 30. In addition, the top chord 38 of the girder rafter 22 are thereby pivotally mounted to the floor truss 30 by virtue of the hinge plate 52 which interconnects the lower end of the top chord 38 and the connector rails 46 of the overhang portion 42 with the connector blocks 48 via the connector brackets 110.

[0061] The front wall portion 24 is interconnected to the sub-assembly as previously described in a simple, and efficient manner. First, a lower portion of the vertical members 66 of the peripheral frame 60 of the front wall portion 24 is pivotally connected at each of its widthwise sides to an interior surface of each of the top chord 38 (adjacent the lower crossmember 40) of the girder rafter 22 by a hinge plate 52. In this state of assembly, the connector rails 68

are in a disconnected state with respect to the peripheral frame 60. Opposite ends of the connector rails 68 are interconnected to interior surfaces of the top chord 38 (adjacent the upper crossmember 40) by a hinge plate 52.

[0062] As was previously described, each of the knee wall chords 56 have their upper ends interconnected to an interior surface of the top chord 38 of the girder rafter 22 by a hinge plate 52 at a generally intermediate point between the upper and lower crossmembers 40.

[0063] The roof truss 32 is placed into a collapsed state at this stage of assembly by removing the ridge board 92 (which is bundled separately and shipped with the collapsed dormer assembly 20 to the installation site of the dwelling 10) and pivoting the roof frame chord 100 downwardly adjacent to the base chord 94. This pivoting can occur by virtue of the pivotal mounting provided by each of the hinge plates 52 located between the assembly of the connector blocks 96 and the overhang portion 98 and the roof frame chord 100. Each of the triangular frames 90 forming the roof truss 32 is preferably mounted at spaced intervals along the connector rails 68 which have been previously pivotally mounted to the girder rafter 22 top chord 38 by hinge plates 52.



[0064] In the collapsed state as shown in Figure 9, the girder rafter 22 is pivoted downwardly and lays generally flat atop the joists 80 making up the floor truss 30. The front wall portion 24 is pivoted downwardly and lays generally flat atop the joists 80 making up the floor trust 30 by virtue of the pivotal mounting of the hinge plate 52 between the peripheral frame 66 of the front wall portion 24 and the top chord 38 of the girder rafter 22 adjacent to the lower crossmember 40. The roof truss 32 and the associated connector rails 68 are pivoted downwardly and lay generally flat atop the front wall portion 24 in an accordion-style arrangement. As previously described, the ridge board 92 of the roof truss 32 has been removed so that the roof frame chord 100 can be pivoted about its corresponding hinge plate 52 to lay generally flat atop the base chord 94 forming each of the individual triangular frames 90 of the roof truss 32. As can be seen from Figure 9, the collapsed state of the dormer assembly 20 occupies a low profile and occupies a low volume during shipment of the collapsed dormer assembly 20 to a manufacturing site for a dwelling 10. The remaining components of the dormer assembly 20, i.e., the right and left hand frame portions 26 and 28, as well as the finishing

frame portion 34, are preferably bundled with the collapsed dormer assembly 20 for shipment to an installation site.

[0065] The second phase of assembly of the dormer assembly 20 will be described with respect to Figures 9–14. This state of assembly is typically performed once the collapsed dormer assembly 20 (and the associated bundled components) is shipped from a mass-manufacturing facility to an installation site for a dwelling 10 wherein the dormer assembly 20 (or multiple dormer assembly 20) is to be assembled onto a rooftop surface of the dwelling 10.

[0066] The second phase of assembly begins with the collapsed state of the dormer assembly 20 as shown in Figure 9. Turning to Figure 10, the ridge board 92 of the roof truss 32 is positioned into place between the vertex formed by each of the roof frame chords 100 of each of the triangular frames 90 of the roof truss 32. The roof frame chords 100 of each of the triangular frames 90 of the roof truss 32 are pivoted into position about their corresponding hinge plates 52 and fastened to the ridge board 92 in a conventional manner. Once this step has been completed, the dormer assembly 20 will have the appearance as shown generally in Figure 10.

[0067] Turning to Figure 11, the assembly of the upper surface of the front wall portion 24 to a front base chord 94 of the roof truss 32 is performed. Along these lines, the roof truss 32 (in its now-assembled state as described with respect to Figure 10) is pivoted upwardly (shown generally by reference arrow "A" in Figure 11) to provide clearance for the front wall portion 24 to be pivoted upwardly about its corresponding hinge plate 52 (shown generally by reference arrow "B" in Figure 11). Once the roof truss 32 and the front wall portion 24 have been appropriately pivoted in the above-described directions, the upper surface of the peripheral frame 60 of the front wall portion 24 can be attached to the front chord 94 of the roof truss 32 by a conventional fastener such as nails, screws, nail plates and the like. Once this step has been completed, the dormer assembly 20 will have the appearance as shown generally in Figure 11.

[0068] Turning to Figure 12, the assembly of the right- and left-hand sidewall portions 26 and 28 is performed. It will be understood that a triangular void is created on each lateral side of the dormer assembly 20 as a result of the assembly step shown in Figure 11. The right- and left-hand sidewall portions 26 and 28 are simply inserted into the

corresponding triangular void created on each lateral side of the dormer assembly 20 and fastened thereto with nails, screws, nail plates and the like. Once this step has been completed, the dormer assembly 20 will have the appearance as shown generally in Figure 12.

[0069] Turning to Figure 13, the sub-assembly of the girder rafter 22, the front wall portion 24 and the roof truss 32, is pivoted upwardly (in a direction shown generally by reference arrow "C" in Figure 13) about the plurality of hinge plates 52 interconnecting the top chord 38 and the connector rails 46 with the connector blocks 48 on the girder rafter 22. Once this sub-assembly has been pivoted upwardly as shown in Figure 13, the knee wall chord 56 on each side of the girder rafter 22 can be pivoted downwardly about its corresponding hinge plate 52 (in a direction shown generally by reference arrow "D" in Figure 13) so that the foot 58 on each of the knee wall chord 56 rests atop a corresponding floor truss top chord 86 on corresponding floor joist 80 making up the floor truss 30. The function of the knee wall chord 56 is to hold the dormer assembly 20 in the upwardly-pivoted position as shown in Figure 13 while the dormer assembly stud walls 78 are field installed underneath the angled top chord 38.

Once this step is been completed, the dormer assembly 20 will have the appearance as shown generally in Figure 13.

[0070] Turning to Figure 14, the dormer assembly 20 has been mounted to a rooftop surface of a dwelling 10 and needs only have the finishing frame portion 34 and the associated collar ties 106 attached to the upper portion of the top chord 38 and the upper crossmember 40 of the girder rafter 22 to complete the rooftop assembly of the dormer assembly 20 to the rooftop surface of a dwelling 10. The rooftop surface of the dwelling 10 and exterior surfaces of the roof frame chords 100 on the roof truss 32 can now be completed with rooftop boarding and shingles in a manner conventionally known in the art. In addition, exterior surfaces of the front wall portion 24 and the right- and left- and sidewall portions 26 and 28 can be sided with appropriate materials, such as bricks and/or siding, also in a manner which is conventionally known in the art. The window opening 64 can be provided with a conventional window assembly to complete the dormer assembly 20. A valley truss 130 can be provided comprising an extension of member 92 which has a pair of angular members 132 and 134 interconnected to a base member 136

by nail plates 52. The valley truss 130 completes the extension of the roof portion of the dormer assembly 10 with the remainder of the roof truss members.

[0071] As can be seen from the drawings and description provided herewith, the dormer assembly 20 provides advantages over prior art dormers which were previously required to have been virtually constructed from scratch at an installation site. With the inventive dormer assembly 20 described herein, much of the raw lumber assembly can be performed at a mass-manufacturing facility and sent to the installation site in a collapsed state with a traditional modular home folding roof system. Once the dormer assembly arrives at the installation site in a collapsed state, it can be raised with the adjoining roof structure of the dwelling 10 and then finished in accordance with the steps shown generally in Figures 9–14.

[0072] While the invention has been specifically described in connection with certain specific embodiments thereof, it is to be understood that this is by way of illustration and not of limitation, and the scope of the appended claims should be construed as broadly as the prior art will permit.